

Customer No.: 31561
Docket No.: 12978-US-PA
Application No.: 10/710,420

REMARKS

Present Status of Application

Claims 1-5 remain pending in the application. The Office Action mailed on March 8, 2006 acknowledged Applicant's claim for foreign priority and noted that Applicant has not submitted a certified copy of the foreign application. The Office Action also rejected claims 1-5. Claim 1 is rejected under 35 U.S.C. 112 as being indefinite. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Rich et al. (US Pub. No. 2003/0125917, "Rich" hereinafter). Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rich in view of Rupp et al. (US Patent No. 6,857,110, "Rupp" hereinafter).

Claims 1-5 have been amended. Applicant believes that these changes do not introduce new matter and reconsideration of claims 1-5 is respectfully requested. In view of the above amendments and the following discussions, a notice of allowance is respectfully solicited.

Discussion for Foreign Priority

Applicant did not claim foreign priority. Therefore a certified copy of the foreign application is unnecessary.

Discussion for 35 U.S.C. 112 Rejections

Applicant has amended claim 1 and believes that this amendment has corrected the antecedent basis problem and claim 1 is now definite. Applicant has also amended

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2-5 according to the changes in claim 1.

Discussion for 35 U.S.C. 102(c) Rejections

The Office Action rejected claim 1 as being anticipated by Rich. Applicant respectfully disagrees. Claim 1 is patentable for at least the reasons below.

Although claim 1 and Rich both focus on reducing SDF file sizes, they use different approaches.

The essence of Rich's approach can be seen in paragraphs 37, 51-54 and 100. According to paragraph 37, "The SDF size reduction is based on the correlation of disparate delay values" ... "These correlated values will tend to cluster around technology dependent values, such that the same delays can be reused regardless of the chip size." According to paragraph 52, "The correlation process produces a reduced set of delays, by performing delay correlation analysis across an entire chip as represented in the SDF file 310. The correlation process shown correlates delays according to a policy of combining common delays for a common delay generic name." According to paragraph 54, "... At step 608, the sorted delays are grouped into sets of up to 62 entries corresponding to correlation sets." Moreover, according to paragraph 100, "... The SDF reducer 206 ... selects an instance of a gate (e.g. gate1: AND2; gate2: AND2 are two instances of the AND2 gate with separate delay values) from the SDF file 310. At step 1804, all the delay values for the selected instance are collected from the SDF analysis file 312. Then, at step 1806, the SDF reducer 206 builds the two single super generics tpd_super.sub.13 rise (rise times) and tpd_super_fall (fall times) for the selected instance. It is understood that each

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super generic will be represented by a collection of pointers into a data structure array (or matrix) containing all the relevant delay values. For each instance, in the SDF file 314, the collection of pointers, that point into the data structure array (or matrix) for the super generic to be able to resolve the actual delay values for the particular instance, takes up significantly much less storage than a set of conventional generics (storing information to conventionally identify actual delay values) for a similar instance. Advantageously, the size of the pointers for each instance, according to the preferred embodiment of the present invention, will typically be significantly smaller (more efficient) in overall storage requirements than the storage requirements of the information stored for delay values associated with instances in a conventional implementation SDF file." ... "Besides the increased storage efficiency by removing duplicate delay values and storing these in an organized fashion in the super generics, the use of the memory efficient pointers in an SDF file will additionally reduce the amount of memory storage used for an implementation"

In brief, Rich's approach reduces SDF file sizes by removing duplicate delay entries, grouping delays into correlation set, and using pointers into a data structure array containing all the relevant delay values.

In contrast, claim 1 reduces SDF file sizes by removing state-dependent descriptions which are impossible to be used.

As can be seen, Rich removes duplicate delay entries, whereas claim 1 removes state-dependent descriptions which are impossible to be used. State-dependent descriptions impossible to be used do not have to be duplicate. From another point of

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view, duplicate delay entries may be used in later simulation. What Rich removes from SPF files is obviously different from what claim 1 removes from such files.

Furthermore, Rich teaches nothing about state-dependent descriptions, which describe delay data associated to different input status of the cell, as disclosed in, for example, paragraphs 18 and 19 of the specification in this application. Rich teaches nothing about the possibility of delay entries to be used. Rich simply removes and combines delay entries regardless of their state dependency and possibility to be used.

For at least the reasons above, Applicant believes claim 1 is patently distinguishable from Rich and is allowable. Since claims 2-4 depend on independent claim 1, each of claims 2-4 includes all limitations of claim 1. Consequently, claims 2-4 are also patently distinguishable from Rich and are allowable.

Discussion for 35 U.S.C. 103(a) rejections

The Office Action rejected claim 5 as being unpatentable over Rich in view of Rupp. Applicant respectfully disagrees. Claim 5 is patentable for at least the reasons below.

Based on the discussion for 35 U.S.C. 102(e) rejections above, Applicant believes that Rich does not teach all limitations of claim 1. Claim 5 depends on claim 1 and includes all limitations of claim 1. Therefore, adding Rupp's SDF IEEE 1497 into Rich does not help to render claim 5 obvious. Claim 5 is patentable over Rich in view of Rupp.

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CONCLUSION

In view of the foregoing, it is believed that all pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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